IGNITION(H4D0)

IG(H4DO)

- 1. General Description
- 2. Ignition Coil
- 3. Spark Plug

IGNITION(H4DO) > General Description

CAUTION

- When performing service operation, refer to "Repair Contents" in "General Description". Repair Contents. REPAIR CONTENTS>Repair Contents.
- Prior to starting work, pay special attention to the following:
 - 1. Always wear work clothes, a work cap, and protective shoes. Additionally, wear a helmet, protective goggles, etc. if necessary.
 - 2. Protect the vehicle using a seat cover, fender cover, etc.
 - 3. Prepare the service tools, clean cloth, containers to catch grease and oil, etc.
- Prevent scattering of grease and oil. If it scatters, wipe it off immediately to prevent it from penetrating the floor or flowing out, to protect the environmental.
- If the grease and oil is spilt over the engine, exhaust pipe or the under cover, completely wipe it off to avoid emission of smoke or causing a fire.
- Vehicle components are extremely hot immediately after driving. Be wary of receiving burns from heated parts.
- When performing a repair, identify the cause of trouble and avoid unnecessary work.
- Before disconnecting connectors of sensors or units, be sure to disconnect the ground terminal from the battery sensor.
- Always use the jack-up point when the lifting device, shop jacks or rigid racks are used to support the vehicle.
- Before starting works, remove dirt and corrosion around the target area.
- Keep the removed parts in order and protect them from dust and dirt.
- All removed parts, if to be reused, should be reinstalled in the original positions with attention to the correct directions, etc.
- For the parts except for the non-reusable parts, replace then with new parts if necessary.
- Be sure to tighten bolts and nuts to the specified torque.

IGNITION(H4DO) > General Description

SPECIFICATION

1. IGNITION COIL

Туре	FK0523
Manufacturer	Diamond Electric
Ignition system	Independent ignition coil

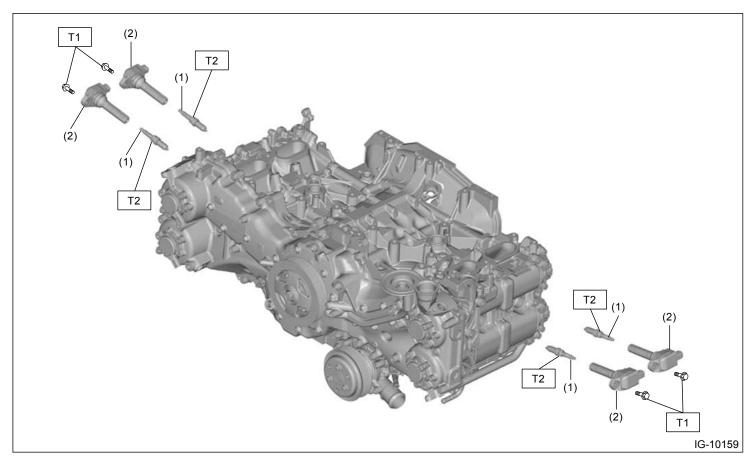
2. SPARK PLUG

Туре			ZXE27HBR8
Manufacturer			DENSO
Thread size (diameter, pitch, length)		mm	12.0, 1.25, 26.5
Spark plug gap	mm (in)	Standard	0.7 - 0.8 (0.028 - 0.031)
	Center elec	trode	Iridium

Electrode Ground electrode Platinum

IGNITION(H4DO) > General Description

COMPONENT



(1) Spark plug

(2) Ignition coil

Tightening torque: N·m (kgf-m,

ft-lb)

T1: 8.5 (0.9, 6.3)
T2: 17 (1.7, 12.5)

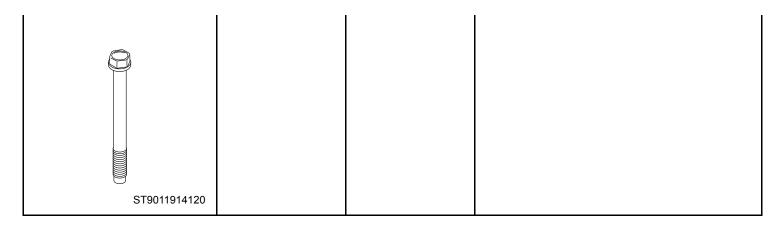
IGNITION(H4DO) > General Description

PREPARATION TOOL

1. SUBARU SPECIAL TOOL

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
	18632AA020	STAND ASSY	Used for removing and installing the
			spark plug.

ST18632AA020			
ST18679AA020	18679AA020	ADJUSTER	 Used for removing and installing the spark plug. Used together with ENGINE HANGER (99099AJ000).
ST99099AJ000	99099AJ000	ENGINE HANGER	 Used for removing and installing the spark plug. Used together with ADJUSTER (18679AA020).
ST1228138150	12281-38150	NO.1	 Used for removing and installing the spark plug. Used together with BOLT (90119-14120).
	90119-14120	BOLT	 Used for removing and installing the spark plug. Used together with ENGINE HANGER NO.1 (12281-38150).



2. OTHER

	REMARKS	
	Used for removing and installing the spark plug.	
Charles	Note:	
Shackle	Load capacity: Use a shackle with a load	
	capacity of 250 kg (551 lb) or more.	

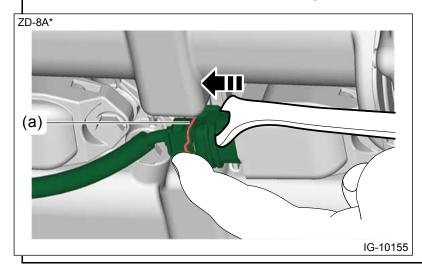
REMOVAL

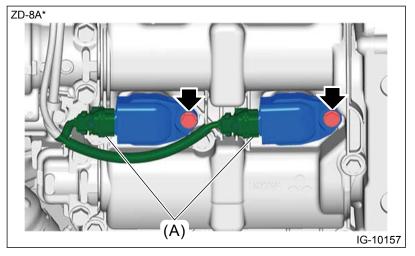
1. RH SIDE

- 1. Disconnect the ground terminal from battery sensor. Ref. to REPAIR CONTENTS > NOTE > BATTERY.
- 2. Remove the strut tower bar RH. Ref. to FRONT SUSPENSION>Strut Tower Bar>REMOVAL.
- **3.** Remove the ECM. Ref. to FUEL INJECTION (FUEL SYSTEMS)(H4DO)>Engine Control Module (ECM)>REMOVAL.
- 4. Disconnect the connector (A) and remove the ignition coil (RH side).

Note:

To disconnect the connector, while pressing the spring (a) shown in the figure, slide it in the direction of the arrow with a clip remover.

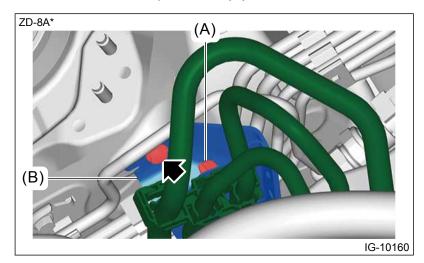




2. LH SIDE

- 1. Disconnect the ground terminal from battery sensor. <a> Ref. to REPAIR CONTENTS>NOTE > BATTERY.
- 2. Remove the strut tower bar LH. Ref. to FRONT SUSPENSION>Strut Tower Bar>REMOVAL.
- **3.** Remove the claw (A) securing the fuel delivery tube clamp, and place the fuel delivery tube clamp together with the tubes aside so that it does not interfere with work.

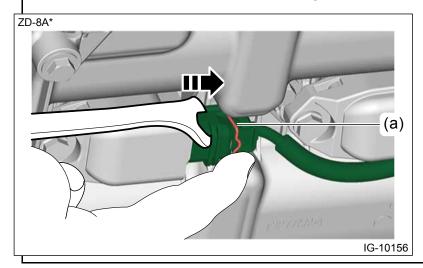
4. Remove the fuel protector (B).

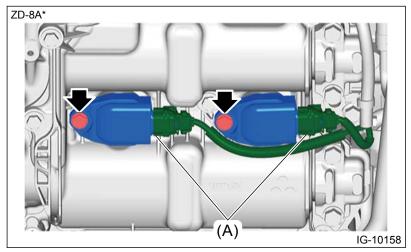


- **5.** Remove the fuel pipe protector LH No. 1. Ref. to FUEL INJECTION (FUEL SYSTEMS)(H4DO)>Fuel Pipe Protector>REMOVAL>FUEL PIPE PROTECTOR LH>FUEL PIPE PROTECTOR LH NO. 1.
- **6.** Disconnect the connector (A) and remove the ignition coil (LH side).

Note:

To disconnect the connector, while pressing the spring (a) shown in the figure, slide it in the direction of the arrow with a clip remover.





INSTALLATION

1. RH SIDE

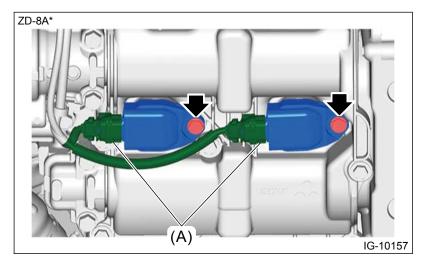
1. Install the ignition coil (RH side) and connect the connector (A).

Caution:

Degrease the mounting bolts, rocker cover installation portion and ignition coil installation hole.

Tightening torque:

8.5 N·m (0.9 kgf-m, 6.3 ft-lb)



- 2. Install the ECM. Ref. to FUEL INJECTION (FUEL SYSTEMS)(H4DO)>Engine Control Module (ECM)>INSTALLATION.
- 3. Install the strut tower bar RH. Ref. to FRONT SUSPENSION>Strut Tower Bar>INSTALLATION.
- 4. Connect the ground terminal to battery sensor. Ref. to REPAIR CONTENTS > NOTE > BATTERY.

2. LH SIDE

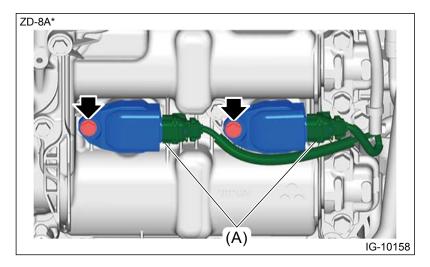
1. Install the ignition coil (LH side) and connect the connector (A).

Caution:

Degrease the mounting bolts, rocker cover installation portion and ignition coil installation hole.

Tightening torque:

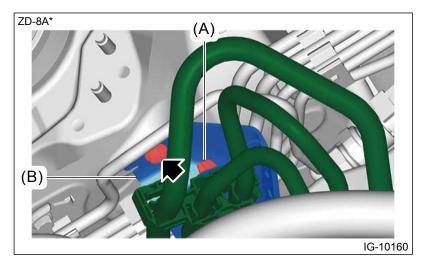
8.5 N·m (0.9 kgf-m, 6.3 ft-lb)



- 2. Install the fuel pipe protector LH No. 1. Ref. to FUEL INJECTION (FUEL SYSTEMS)(H4DO)>Fuel Pipe Protector>INSTALLATION>FUEL PIPE PROTECTOR LH>FUEL PIPE PROTECTOR LH NO. 1.
- **3.** Install the fuel protector (B) and secure the fuel delivery tube clamp with claw (A) together with each tube.

Tightening torque:

8 N·m (0.8 kgf-m, 5.9 ft-lb)



- 4. Install the strut tower bar LH. Ref. to FRONT SUSPENSION>Strut Tower Bar>INSTALLATION.
- **5.** Connect the ground terminal to battery sensor. Ref. to REPAIR CONTENTS > NOTE > BATTERY.

IGNITION(H4DO) > Ignition Coil

INSPECTION

- **1.** Check that there is no deformation, cracks or other damages.
- **2.** Check that there is no electric leakage from other than the center tip.
- **3.** For inspection procedure of ignition control system, refer to "Diagnostics with Phenomenon". Note: Note: Note

REMOVAL







1. RH SIDE

- 1. Fully open the panel COMPL front hood. Ref. to REPAIR CONTENTS>NOTE > STAY ASSEMBLY FRONT HOOD.
- 2. Disconnect the ground terminal from battery sensor. <a> Ref. to REPAIR CONTENTS > NOTE > BATTERY.
- **3.** Perform the steps below to remove the air intake boot, and place it aside so that it does not interfere with the work.

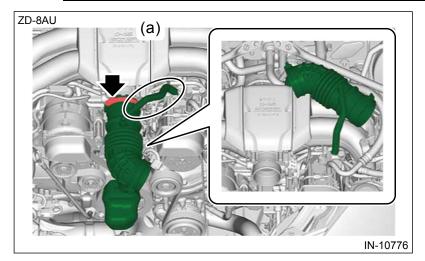
Caution:

Do not disconnect the PCV hose No. 2 (a).

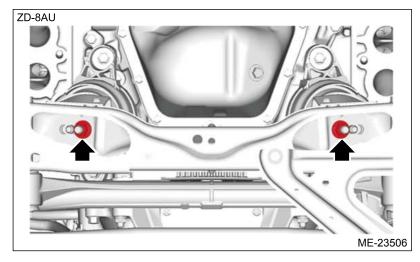
- (1) Remove the air cleaner case. Ref. to INTAKE (INDUCTION)(H4DO)>Air Cleaner Case>REMOVAL.
- (2) Loosen the clamp, remove the air intake boot, and place it aside so that it does not interfere with the work.

Caution:

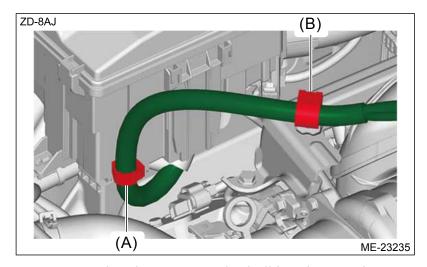
Be careful not to pull out the PCV hose No. 2 (a).



- **4.** Remove the ECM. Ref. to FUEL INJECTION (FUEL SYSTEMS)(H4DO)>Engine Control Module (ECM)>REMOVAL.
- 5. Remove the front exhaust pipe. Ref. to EXHAUST(H4DO)>Front Exhaust Pipe>REMOVAL.
- **6.** Remove the nuts which secure the engine mounting to the crossmember COMPL front.



- 7. Open the claw of the clip (A) which secures the generator cord to the main fuse box and remove the generator cord.
- 8. Remove the clip (B) securing the generator cord to the fuel pipe protector RH No. 1.

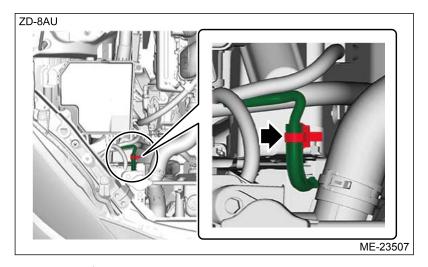


9. Remove the clip securing the bulkhead wiring harness to the vehicle.

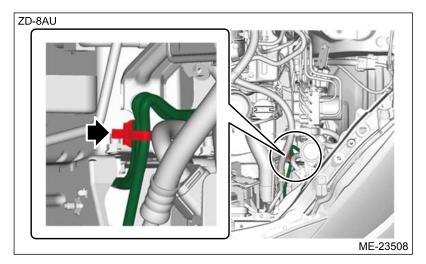
Note:

This procedure is required to prevent the bulkhead wiring harness from being damaged by the adjuster (ST).

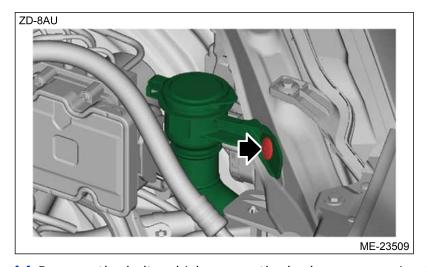
• RH side



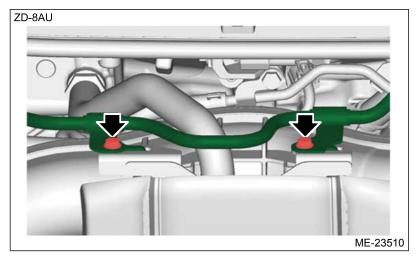
• LH side



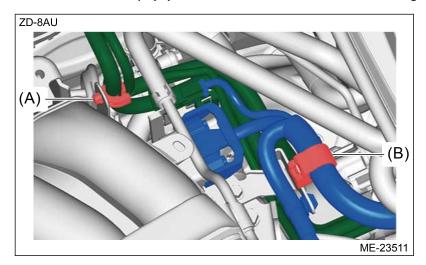
10. Remove the clip securing the hose inlet assembly to the vehicle.



11. Remove the bolts which secure the brake vacuum pipe to the collector cover bracket No. 2.



12. Remove the clip (A) which secures the battery cable assembly to the intake manifold assembly, and remove the clip (B) which secures the bulkhead wiring harness to the engine rear hanger.



13. Lift the engine using the ST1, ST2, ST3, ST4, and the shackle, and install the ST5.

(1) Using the ST1, install the ST2 to the engine unit.

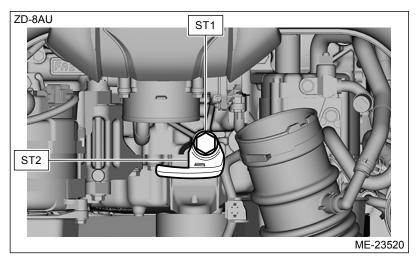
Preparation tool:

ST1: BOLT (90119-14120)

ST2: ENGINE HANGER NO.1 (12281-38150)

Tightening torque:

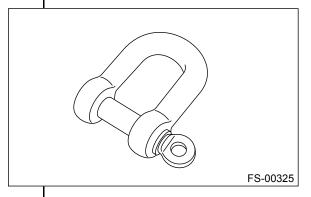
43 N·m (4.4 kgf-m, 31.7 ft-lb)



(2) Set the ST3, ST4, and the shackle to the vehicle.

Caution:

• Use a shackle with the load capacity of 250 kg (551 lb) or more.



• Set the ST3, ST4, and the shackle at the locations shown in the figure.

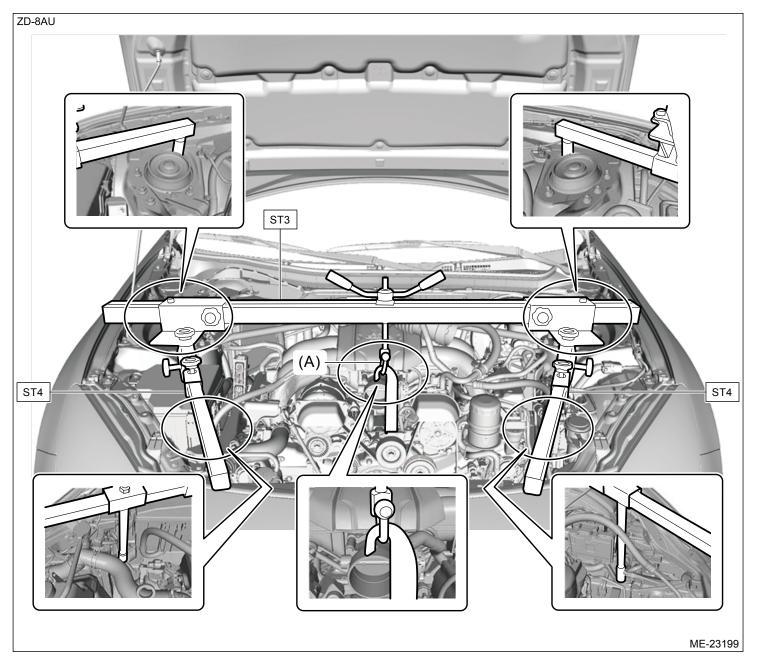
Preparation tool:

ST3: ENGINE HANGER (99099AJ000)

ST4: ADJUSTER (18679AA020)

General tool:

Shackle



(A) Shackle

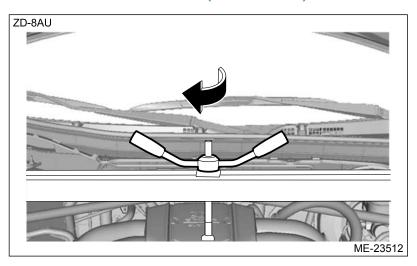
(3) Turn the handle clockwise to lift the engine gradually and set the ST5 between the engine mounting and crossmember COMPL front.

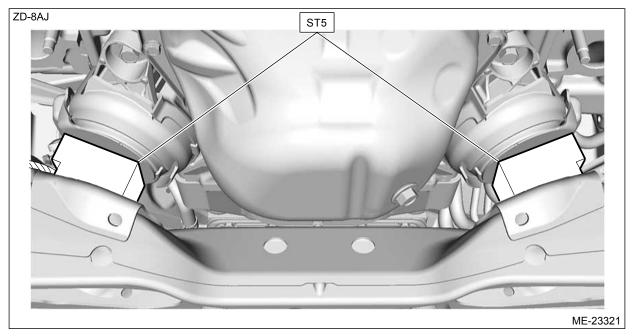
Caution:

- To prevent damage to the threaded portion of the handle, apply grease or lubricants to the threaded portion before starting the work.
- When lifting up the engine unit, pay attention to the clearance of each part and be careful not to lift the engine too much, in order to prevent damaging the vehicle.
- When the engine unit is lifted, #4 part of the intake manifold assembly and hose pressure suction contact lightly. Insert a cloth, etc. between #4 part of the intake manifold assembly and hose pressure suction for protection.

Preparation tool:

ST5: STAND ASSY (18632AA020)

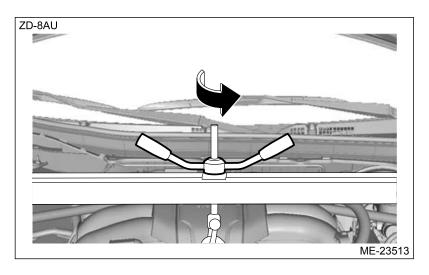


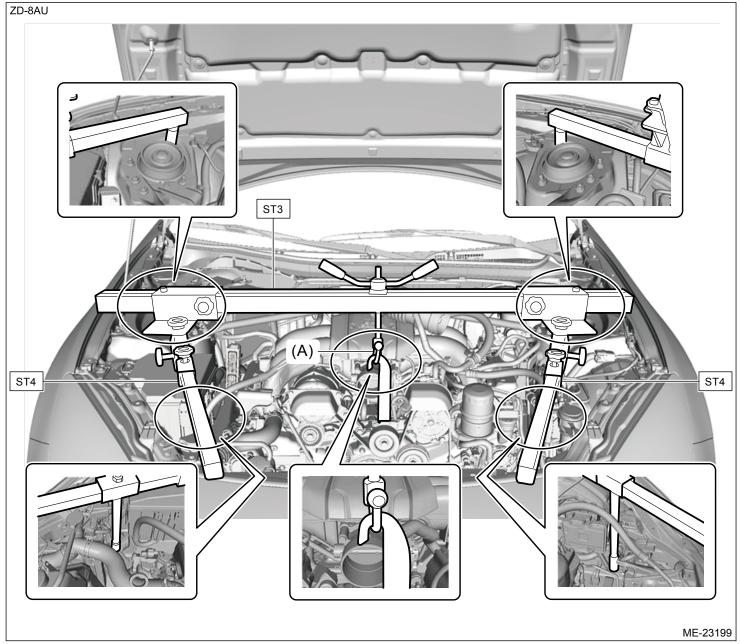


(4) Turn the handle counterclockwise to lower the engine gradually and remove the ST3, ST4, and the shackle.

Caution:

After lowering the engine, rock the engine to check that the ST5 does not come off.





14. Remove the ignition coil (RH side). Ref. to IGNITION(H4DO)>Ignition Coil>REMOVAL > RH SIDE. **15.** Remove the spark plug (RH side).

2. LH SIDE

- 1. Fully open the panel COMPL front hood. Ref. to REPAIR CONTENTS>NOTE > STAY ASSEMBLY FRONT HOOD.
- 2. Disconnect the ground terminal from battery sensor. Ref. to REPAIR CONTENTS > NOTE > BATTERY.
- **3.** Perform the steps below to remove the air intake boot, and place it aside so that it does not interfere with the work.

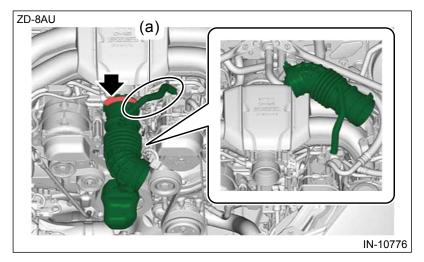
Caution:

Do not disconnect the PCV hose No. 2 (a).

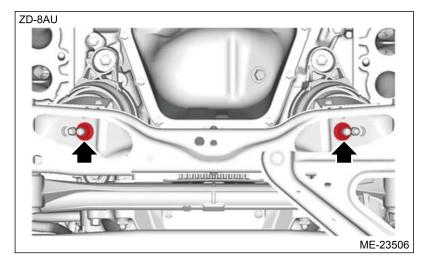
- (1) Remove the air cleaner case. Ref. to INTAKE (INDUCTION)(H4DO)>Air Cleaner Case>REMOVAL.
- (2) Loosen the clamp, remove the air intake boot, and place it aside so that it does not interfere with the work.

Caution:

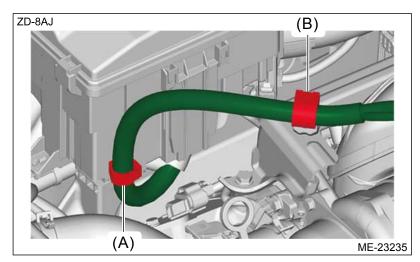
Be careful not to pull out the PCV hose No. 2 (a).



- **4.** Remove the ECM. Ref. to FUEL INJECTION (FUEL SYSTEMS)(H4DO)>Engine Control Module (ECM)>REMOVAL.
- 5. Remove the front exhaust pipe. Ref. to EXHAUST(H4DO)>Front Exhaust Pipe>REMOVAL.
- **6.** Remove the nuts which secure the engine mounting to the crossmember COMPL front.



- 7. Open the claw of the clip (A) which secures the generator cord to the main fuse box and remove the generator cord.
- 8. Remove the clip (B) securing the generator cord to the fuel pipe protector RH No. 1.

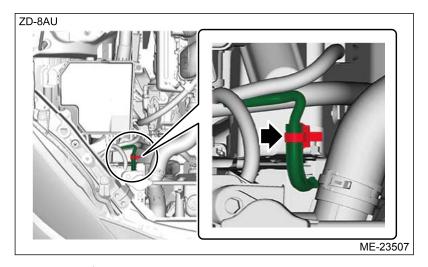


9. Remove the clip securing the bulkhead wiring harness to the vehicle.

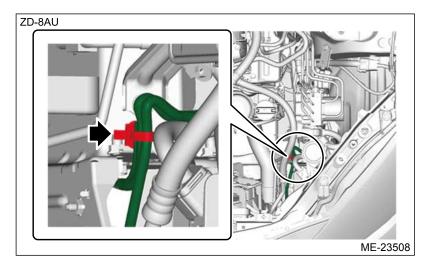
Note:

This procedure is required to prevent the bulkhead wiring harness from being damaged by the adjuster (ST).

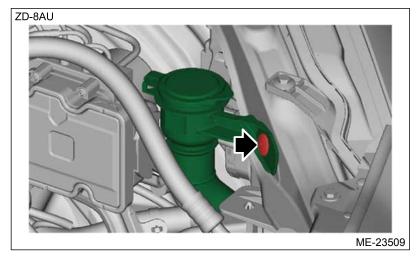
• RH side



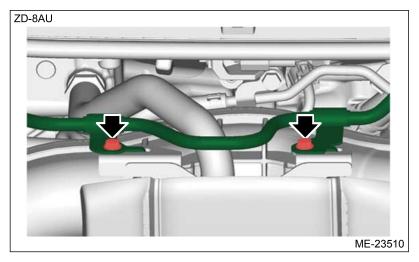
• LH side



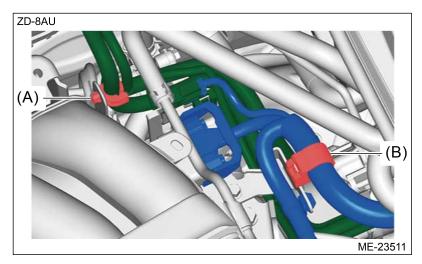
10. Remove the clip securing the hose inlet assembly to the vehicle.



11. Remove the bolts which secure the brake vacuum pipe to the collector cover bracket No. 2.



12. Remove the clip (A) which secures the battery cable assembly to the intake manifold assembly, and remove the clip (B) which secures the bulkhead wiring harness to the engine rear hanger.



13. Lift the engine using the ST1, ST2, ST3, ST4, and the shackle, and install the ST5.

(1) Using the ST1, install the ST2 to the engine unit.

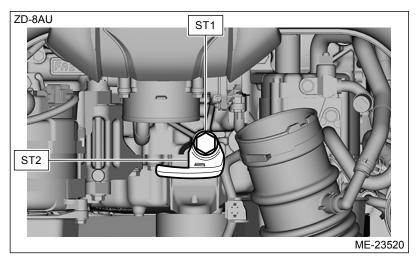
Preparation tool:

ST1: BOLT (90119-14120)

ST2: ENGINE HANGER NO.1 (12281-38150)

Tightening torque:

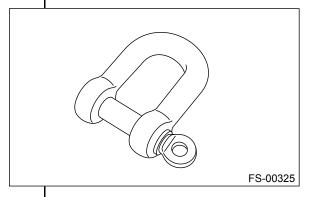
43 N·m (4.4 kgf-m, 31.7 ft-lb)



(2) Set the ST3, ST4, and the shackle to the vehicle.

Caution:

• Use a shackle with the load capacity of 250 kg (551 lb) or more.



• Set the ST3, ST4, and the shackle at the locations shown in the figure.

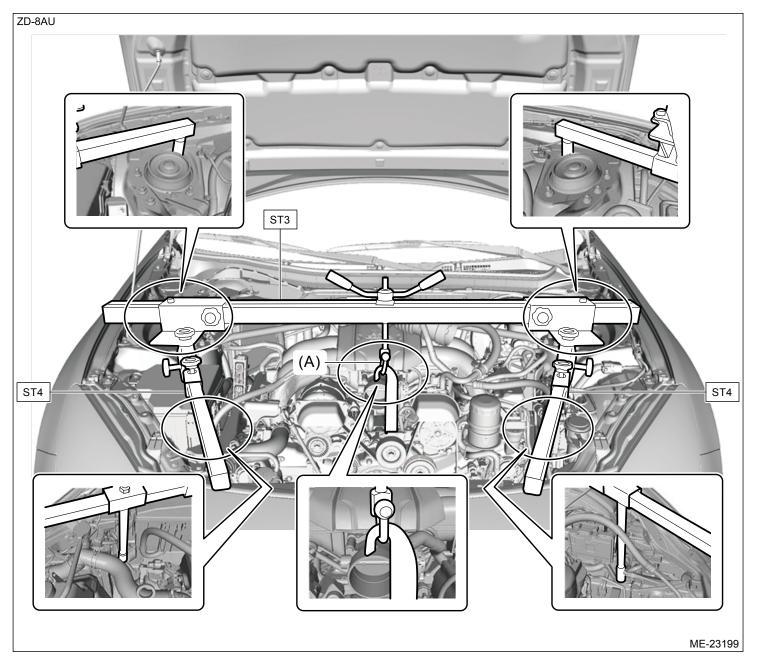
Preparation tool:

ST3: ENGINE HANGER (99099AJ000)

ST4: ADJUSTER (18679AA020)

General tool:

Shackle



(A) Shackle

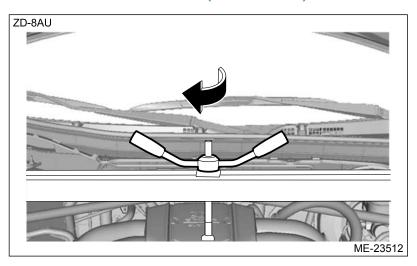
(3) Turn the handle clockwise to lift the engine gradually and set the ST5 between the engine mounting and crossmember COMPL front.

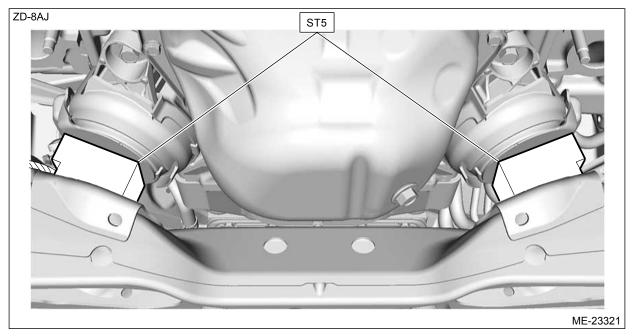
Caution:

- To prevent damage to the threaded portion of the handle, apply grease or lubricants to the threaded portion before starting the work.
- When lifting up the engine unit, pay attention to the clearance of each part and be careful not to lift the engine too much, in order to prevent damaging the vehicle.
- When the engine unit is lifted, #4 part of the intake manifold assembly and hose pressure suction contact lightly. Insert a cloth, etc. between #4 part of the intake manifold assembly and hose pressure suction for protection.

Preparation tool:

ST5: STAND ASSY (18632AA020)

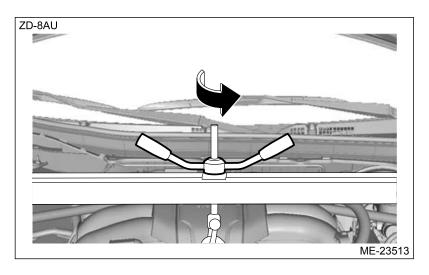


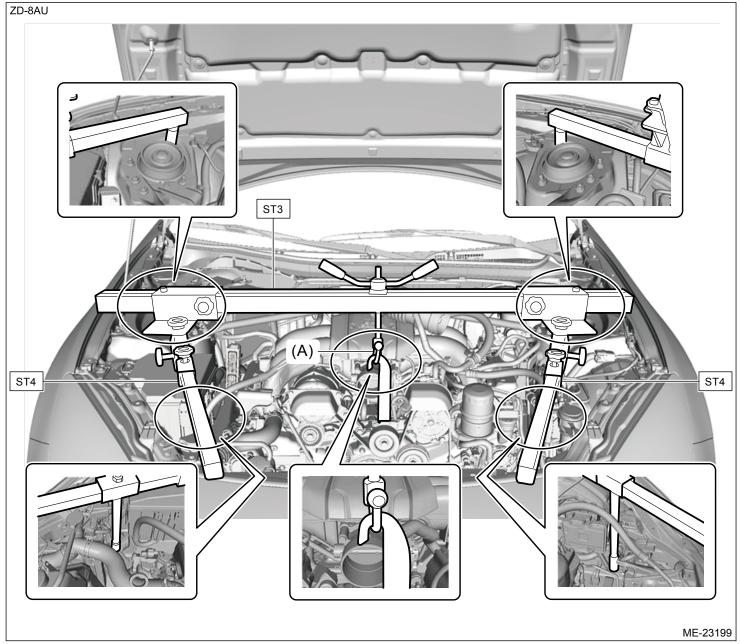


(4) Turn the handle counterclockwise to lower the engine gradually and remove the ST3, ST4, and the shackle.

Caution:

After lowering the engine, rock the engine to check that the ST5 does not come off.





14. Remove the ignition coil (LH side). Ref. to IGNITION(H4DO)>Ignition Coil>REMOVAL > LH SIDE.

15. Remove the spark plug (LH side).

IGNITION(H4DO) > Spark Plug

INSTALLATION

Caution:

- Handle the spark plug carefully.
- If the spark plug is dropped, replace with a new spark plug.

1. RH SIDE

1. Install the spark plug.

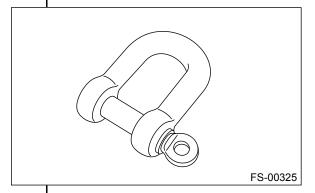
Tightening torque:

17 N·m (1.7 kgf-m, 12.5 ft-lb)

- 2. Install the ignition coil (RH side). Ref. to IGNITION(H4DO)>Ignition Coil>INSTALLATION > RH SIDE.
- **3.** Lift the engine using the ST1, ST2, ST3, ST4 and the shackle, and remove the ST5.
 - (1) Set the ST3, ST4, and the shackle to the vehicle.

Caution:

• Use a shackle with the load capacity of 250 kg (551 lb) or more.



• Set the ST3, ST4, and the shackle at the locations shown in the figure.

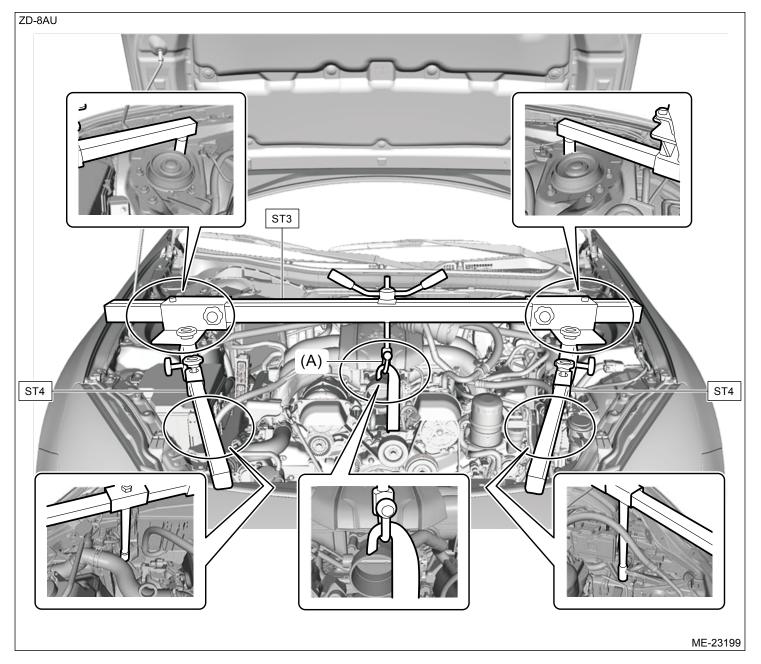
Preparation tool:

ST3: ENGINE HANGER (99099AJ000)

ST4: ADJUSTER (18679AA020)

General tool:

Shackle

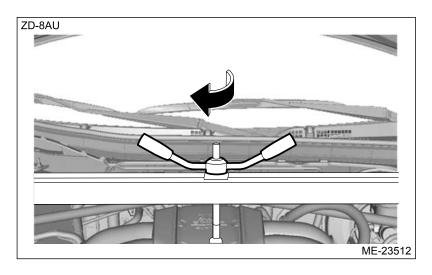


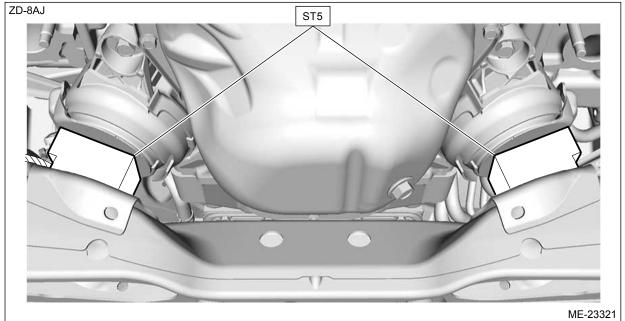
(A) Shackle

(2) Turn the handle clockwise to lift the engine gradually and remove the ST5.

Caution:

- To prevent damage to the threaded portion of the handle, apply grease or lubricants to the threaded portion before starting the work.
- When lifting up the engine unit, pay attention to the clearance of each part and be careful not to lift the engine too much, in order to prevent damaging the vehicle.

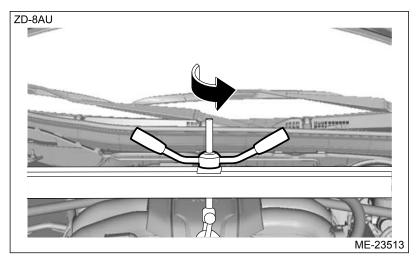




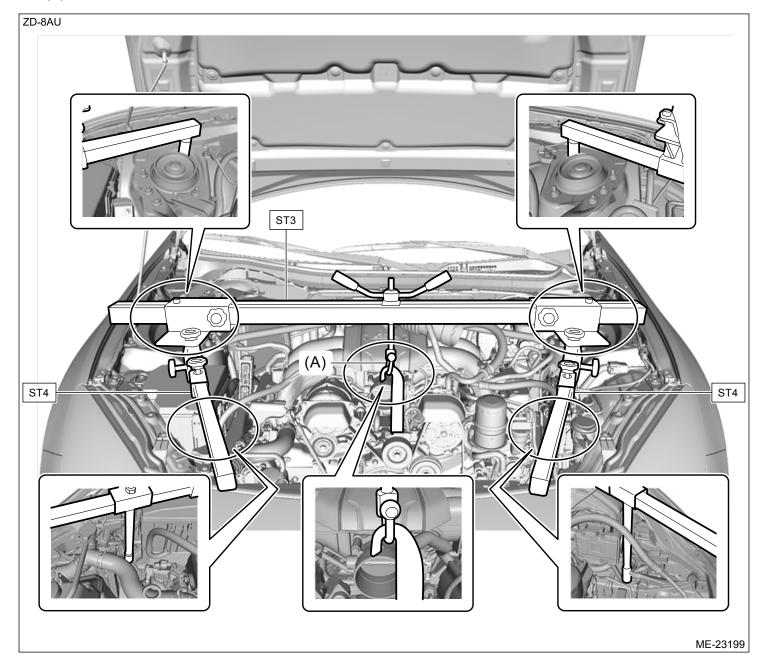
(3) Turn the handle counterclockwise to lower the engine gradually and insert the stud bolt of the engine mounting into the engine mounting hole of the crossmember COMPL front.

Note:

- If it is hard to insert the stud bolt of the engine mounting into the engine mounting hole of the crossmember COMPL front, lower the engine while lightly pushing it toward the rear of the vehicle.
- Check that the stud bolt of the engine mounting is securely inserted into the engine mounting hole of the crossmember COMPL front.

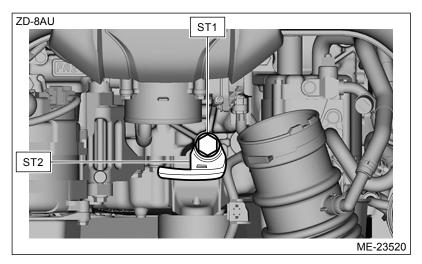


(4) Remove the ST3, ST4, and the shackle from the vehicle.

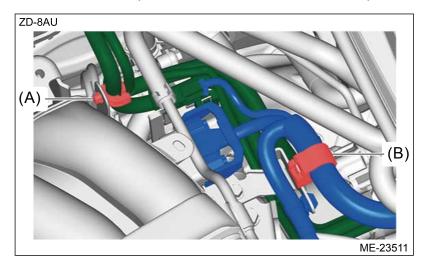


(A) Shackle

(5) Remove the ST1 and ST2.

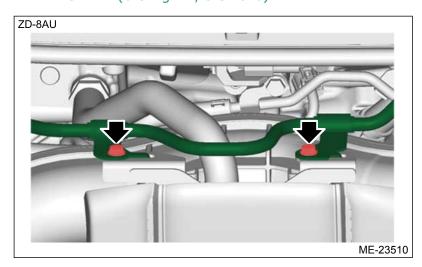


4. Secure the bulkhead wiring harness to the engine rear hanger with clip (B), and secure the battery cable assembly to the intake manifold assembly with clip (A).

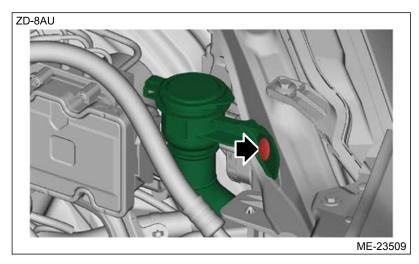


5. Install the bolts which secure the brake vacuum pipe to the collector cover bracket No. 2.
Tightening torque:

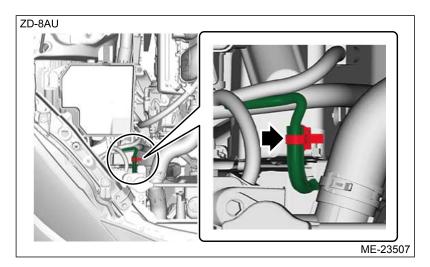
7.5 N·m (0.8 kgf-m, 5.5 ft-lb)



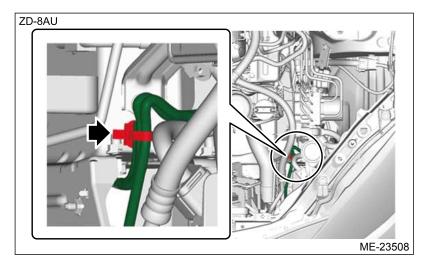
6. Secure the hose inlet assembly to the vehicle with the clip.



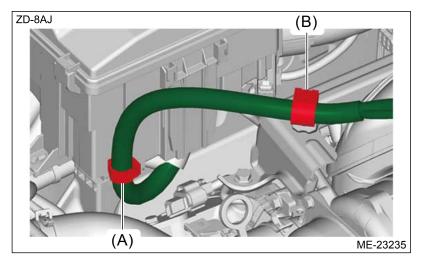
- 7. Secure the bulkhead wiring harness to the vehicle with the clip.
 - RH side



• LH side



8. Secure the generator cord to the fuel pipe protector RH No. 1 with clip (B), and secure the generator cord to the main fuse box with clip (A).



9. Install the nuts which hold the engine mounting to the crossmember COMPL front.

Caution:

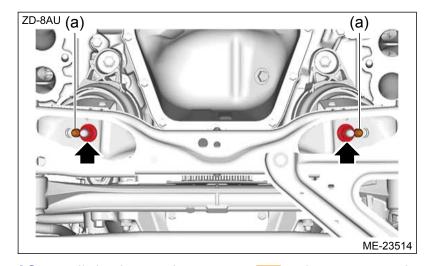
Be sure to use a new nut.

Note:

Make sure that locators (a) of the engine mounting are securely inserted.

Tightening torque:

90 N·m (9.2 kgf-m, 66.4 ft-lb)



- **10.** Install the front exhaust pipe. Ref. to EXHAUST(H4DO)>Front Exhaust Pipe>INSTALLATION.
- **11.**Install the ECM. Ref. to FUEL INJECTION (FUEL SYSTEMS)(H4DO)>Engine Control Module (ECM)>INSTALLATION.
- 12. Install the air intake boot. Ref. to INTAKE (INDUCTION)(H4DO)>Air Intake Boot>INSTALLATION.
- 13. Connect the ground terminal to battery sensor. Ref. to REPAIR CONTENTS > NOTE > BATTERY.
- **14.** Set the panel COMPL front hood to the normal position. Ref. to REPAIR CONTENTS>NOTE > STAY ASSEMBLY FRONT HOOD.
- **15.** Check the select lever and adjust it if necessary. (AT model)

Inspection:

Ref. to CONTROL SYSTEMS>Select Lever>INSPECTION.

Adjustment:

Ref. to CONTROL SYSTEMS>Select Lever>ADJUSTMENT.

Note:

This procedure is required because the select lever may be deviated from the adjusted position due to installation/removal of the nut on the engine mounting.

2. LH SIDE

1. Install the spark plug.

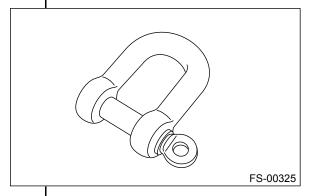
Tightening torque:

17 N·m (1.7 kgf-m, 12.5 ft-lb)

- 2. Install the ignition coil (LH side). Ref. to IGNITION(H4DO)>Ignition Coil>INSTALLATION > LH SIDE.
- 3. Lift the engine using the ST1, ST2, ST3, ST4 and the shackle, and remove the ST5.
 - (1) Set the ST3, ST4, and the shackle to the vehicle.

Caution:

• Use a shackle with the load capacity of 250 kg (551 lb) or more.



• Set the ST3, ST4, and the shackle at the locations shown in the figure.

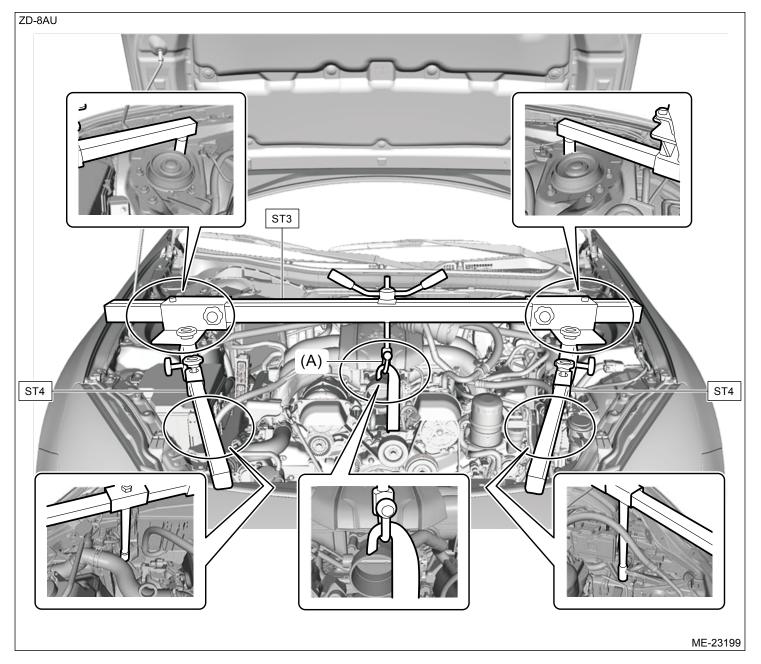
Preparation tool:

ST3: ENGINE HANGER (99099AJ000)

ST4: ADJUSTER (18679AA020)

General tool:

Shackle

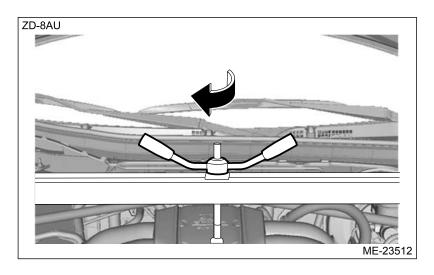


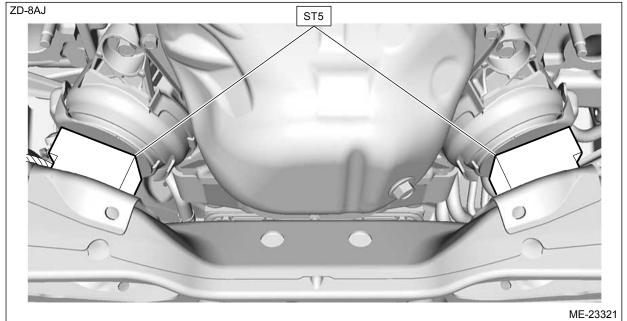
(A) Shackle

(2) Turn the handle clockwise to lift the engine gradually and remove the ST5.

Caution:

- To prevent damage to the threaded portion of the handle, apply grease or lubricants to the threaded portion before starting the work.
- When lifting up the engine unit, pay attention to the clearance of each part and be careful not to lift the engine too much, in order to prevent damaging the vehicle.

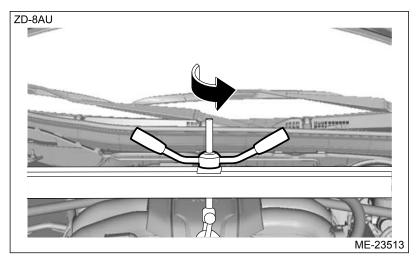




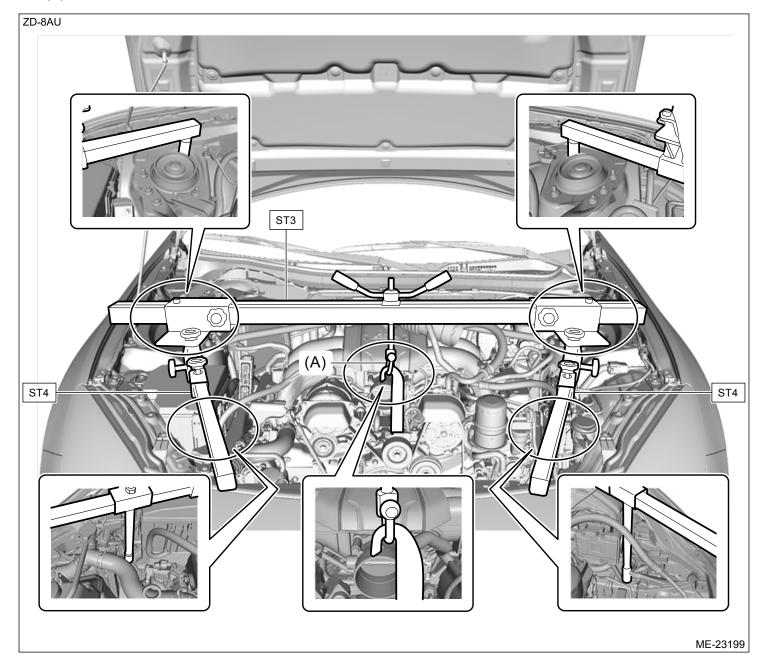
(3) Turn the handle counterclockwise to lower the engine gradually and insert the stud bolt of the engine mounting into the engine mounting hole of the crossmember COMPL front.

Note:

- If it is hard to insert the stud bolt of the engine mounting into the engine mounting hole of the crossmember COMPL front, lower the engine while lightly pushing it toward the rear of the vehicle.
- Check that the stud bolt of the engine mounting is securely inserted into the engine mounting hole of the crossmember COMPL front.

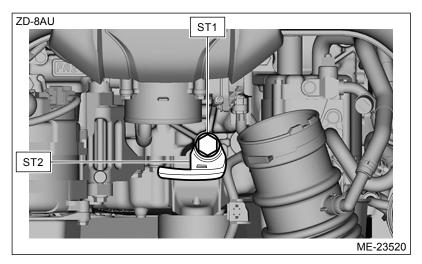


(4) Remove the ST3, ST4, and the shackle from the vehicle.

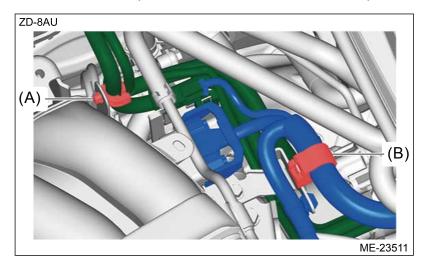


(A) Shackle

(5) Remove the ST1 and ST2.

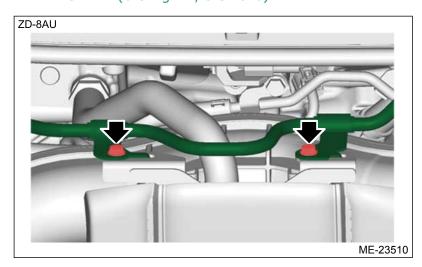


4. Secure the bulkhead wiring harness to the engine rear hanger with clip (B), and secure the battery cable assembly to the intake manifold assembly with clip (A).

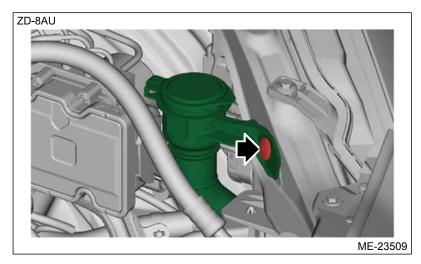


5. Install the bolts which secure the brake vacuum pipe to the collector cover bracket No. 2.
Tightening torque:

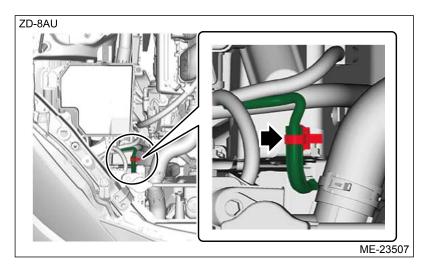
7.5 N·m (0.8 kgf-m, 5.5 ft-lb)



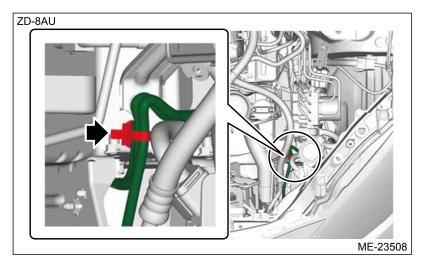
6. Secure the hose inlet assembly to the vehicle with the clip.



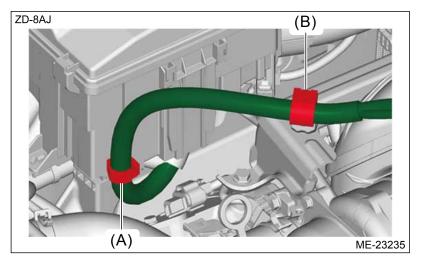
- 7. Secure the bulkhead wiring harness to the vehicle with the clip.
 - RH side



• LH side



8. Secure the generator cord to the fuel pipe protector RH No. 1 with clip (B), and secure the generator cord to the main fuse box with clip (A).



9. Install the nuts which hold the engine mounting to the crossmember COMPL front.

Caution:

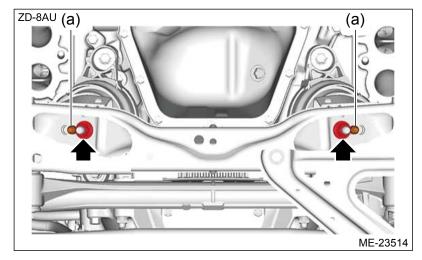
Be sure to use a new nut.

Note:

Make sure that locators (a) of the engine mounting are securely inserted.

Tightening torque:

90 N·m (9.2 kgf-m, 66.4 ft-lb)



- 10. Install the front exhaust pipe. Ref. to EXHAUST(H4DO)>Front Exhaust Pipe>INSTALLATION.
- **11.**Install the ECM. Ref. to FUEL INJECTION (FUEL SYSTEMS)(H4DO)>Engine Control Module (ECM)>INSTALLATION.
- 12. Install the air intake boot. Ref. to INTAKE (INDUCTION)(H4DO)>Air Intake Boot>INSTALLATION.
- 13. Connect the ground terminal to battery sensor. Ref. to REPAIR CONTENTS > NOTE > BATTERY.
- **14.** Set the panel COMPL front hood to the normal position. Ref. to REPAIR CONTENTS>NOTE > STAY ASSEMBLY FRONT HOOD.
- **15.** Check the select lever and adjust it if necessary. (AT model)

Inspection:

Ref. to CONTROL SYSTEMS>Select Lever>INSPECTION.

Adjustment:

Ref. to CONTROL SYSTEMS>Select Lever>ADJUSTMENT.

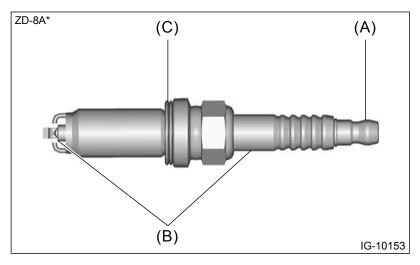
Note:

This procedure is required because the select lever may be deviated from the adjusted position due to installation/removal of the nut on the engine mounting.

IGNITION(H4DO) > Spark Plug

INSPECTION

1. Check the spark plug for damage. If defective, replace the spark plug.



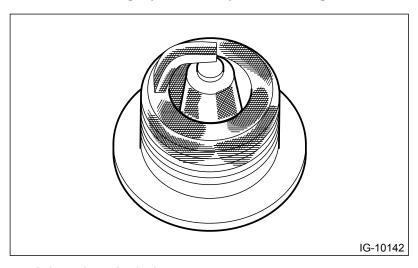
- (A) Terminal damage or looseness (B) Crack or damage in insulator (C) Damaged gasket
- 2. Check the spark plug electrode and condition of the insulator. If abnormal, check and repair the cause and replace the spark plug.

Caution:

Do not use a plug cleaner or brush to clean the spark plug as it may damage the electrode area.

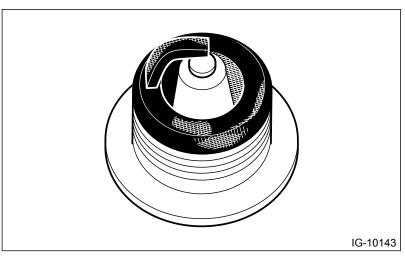
(1) Normal:

Brown to grayish-tan deposits and slight electrode wear indicate correct spark plug heat range.



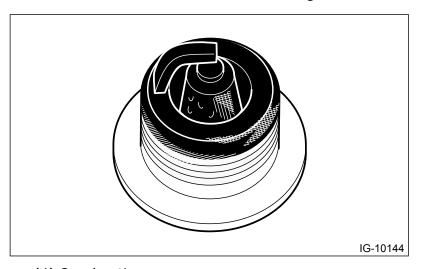
(2) Carbon fouled:

Dry fluffy carbon deposits on the insulator and electrode are mostly caused by slow-speed driving in town, weak ignition, too rich fuel mixture, etc.



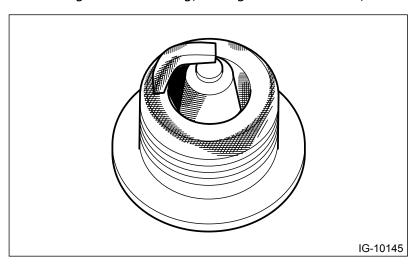
(3) Oil fouled:

Wet black deposits show oil entrance into combustion chamber through worn piston rings or increased clearance between valve guides and valve stems.



(4) Overheating:

A white or light gray insulator with black or brown spots and bluish burnt electrodes indicate engine overheating, wrong selection of fuel, or loose spark plugs.



3. Visually check the spark plug gap (A). If faulty such as deformation is found, replace the spark plug.

Caution:

Do not adjust the gap for the spark plug.

